

Scaled data based on original data using
LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-State
Lighting Products

Test Report Prepared for

Cooper Lighting Solutions

(formerly Eaton)

Brand: FAIL-SAFE

Report Number: P546284

Luminaire Tested: **FMR-12-4-LD4-2LO-50-UNV-82-94-EDD**

Issue Date: 6/15/2021

This test was performed under the Supervised Manufacturer's Testing Program. The results of this test have not been influenced by sources from within Cooper Lighting Solutions or from external interests.

Test Information

Test Method: LM-79-08
Report Number: P546284
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2102-135-5)
Test Lab: INNOVATION CENTER
Issue Date: 6/15/2021
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: FMR-12-4-LD4-2LO-50-UNV-82-94-EDD
Description: 1X4 FMR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .187 CLEAR
TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

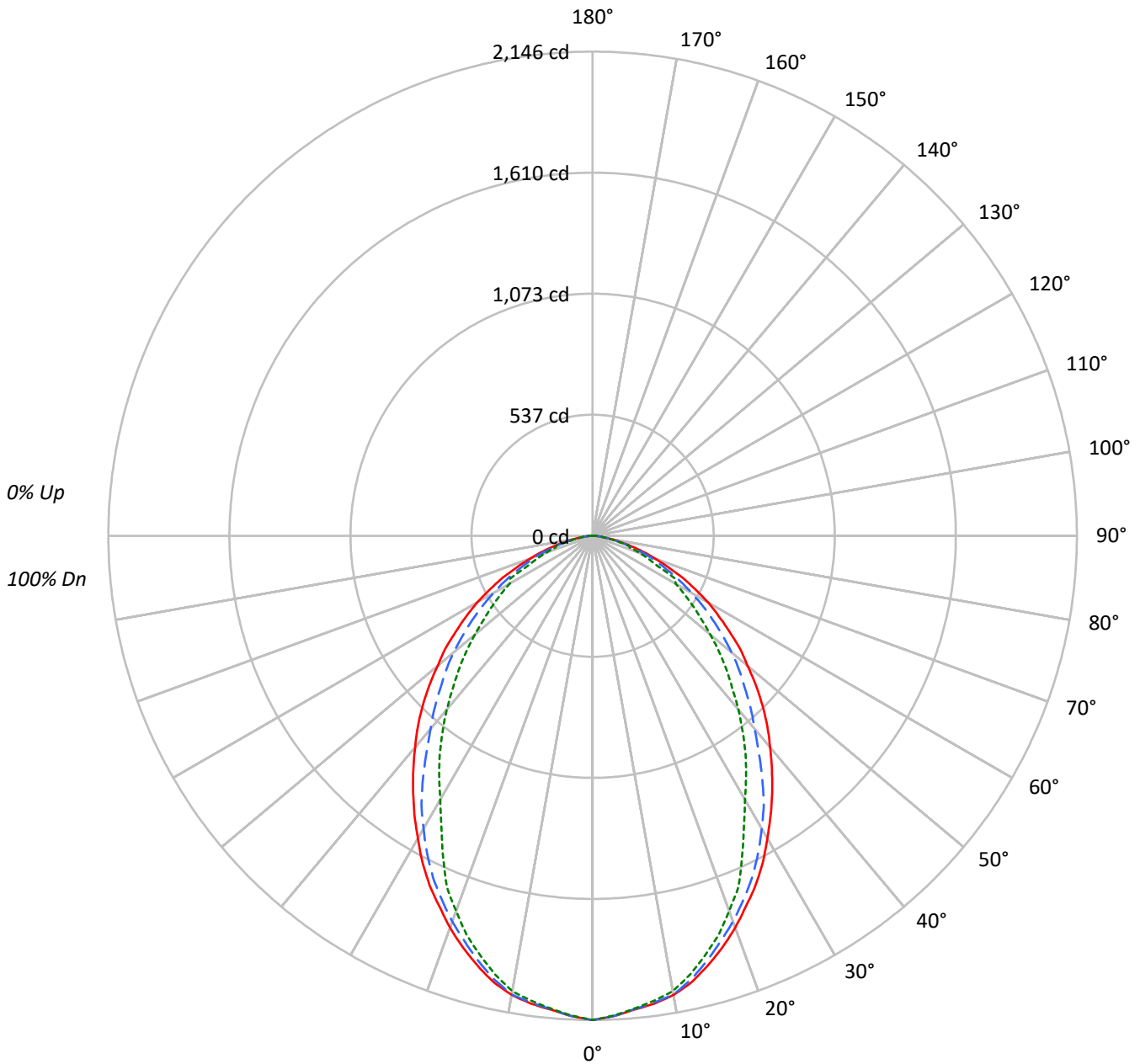
Lumens per Lamp: N/A
Luminaire Lumens: 4213.0 lumens
Efficiency: N/A
Efficacy: 90.0 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 46.8
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT

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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				20				20				20				20				
RC	80				70				50				30				10			0	
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	0
RCR																					
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100	100	100	100
1	110	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89	87	87	87	87
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75	75	75	75
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65	65	65	65
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56	56	56	56
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50	50	50	50
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44	44	44	44
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40	40	40	40
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36	36	36	36
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33	33	33	33
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30	30	30	30

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	5775	5775	5775
5°	5696	5690	5683
10°	5647	5640	5600
15°	5495	5439	5363
20°	5293	5208	5066
25°	5075	4965	4656
30°	4810	4656	4194
35°	4556	4303	3879
40°	4297	3922	3530
45°	4050	3626	3191
50°	3749	3365	2846
55°	3468	3050	2549
60°	3178	2724	2283
65°	2796	2385	2022
70°	2304	2089	1718
75°	1831	1599	1677
80°	1230	1153	1077
85°	766	920	1071



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	199.8	4.7
10°-20°	548.2	13.0
20°-30°	759.0	18.0
30°-40°	809.3	19.2
40°-50°	738.3	17.5
50°-60°	578.4	13.7
60°-70°	377.0	8.9
70°-80°	167.0	4.0
80°-90°	35.9	0.9
90°-100°	0.0	0.0
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	1507.0	35.8
0°-40°	2316.4	55.0
0°-60°	3633.1	86.2
0°-90°	4213.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4213.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2146	2146	2146	2146	2146	
5°	2109	2106	2106	2104	2104	200
15°	1972	1972	1952	1933	1925	554
25°	1709	1700	1672	1613	1568	785
35°	1387	1377	1310	1211	1181	867
45°	1064	1042	953	873	839	820
55°	739	717	650	573	543	663
65°	439	414	375	382	318	433
75°	176	164	154	146	161	189
85°	25	27	30	32	35	34
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2146.0	2146.0	2146.0	2146.0	2146.0
2.5°	2131.2	2131.2	2131.2	2128.7	2128.7
5°	2108.8	2106.4	2106.4	2103.9	2103.9
7.5°	2091.5	2089.0	2086.5	2084.0	2079.1
10°	2066.7	2066.7	2064.2	2051.8	2049.3
12.5°	2027.0	2024.5	2014.6	1997.2	1992.2
15°	1972.4	1972.4	1952.5	1932.7	1925.2
17.5°	1912.8	1910.4	1885.5	1865.7	1855.8
20°	1848.3	1843.4	1818.6	1786.3	1768.9
22.5°	1776.4	1776.4	1746.6	1704.4	1687.1
25°	1709.4	1699.5	1672.2	1612.6	1568.0
27.5°	1632.5	1617.6	1587.8	1503.5	1451.4
30°	1548.1	1540.7	1498.5	1389.3	1349.7
32.5°	1468.7	1456.3	1411.7	1297.6	1265.3
35°	1386.9	1376.9	1310.0	1210.7	1180.9
37.5°	1305.0	1292.6	1208.2	1128.8	1091.6
40°	1223.1	1208.2	1116.4	1044.5	1004.8
42.5°	1146.2	1126.4	1037.0	960.1	915.5
45°	1064.3	1042.0	952.7	873.3	838.6
47.5°	982.5	962.6	880.7	798.9	759.2
50°	895.6	878.3	803.8	722.0	679.8
52.5°	823.7	796.4	724.4	642.6	607.8
55°	739.3	717.0	650.0	573.1	543.3
57.5°	662.4	640.1	578.1	506.1	481.3
60°	590.5	558.2	506.1	444.1	424.2
62.5°	511.1	486.3	441.6	389.5	414.3
65°	439.1	414.3	374.6	382.1	317.6
67.5°	359.7	347.3	312.6	277.9	267.9
70°	292.8	277.9	265.5	228.2	218.3
72.5°	233.2	218.3	201.0	181.1	173.7
75°	176.1	163.7	153.8	146.4	161.3
77.5°	121.6	116.6	109.2	101.7	99.2
80°	79.4	76.9	74.4	71.9	69.5
82.5°	47.1	47.1	47.1	47.1	47.1
85°	24.8	27.3	29.8	32.3	34.7
87.5°	14.9	14.9	17.4	19.8	22.3
90°	0.0	0.0	0.0	0.0	0.0



Report Generated By 670246072 / DESKTOP-MV3F9LC





— 0°-180° - - 45°-225° - - - - 90°-270°







(END OF REPORT)